

REMARKS

Claims 1-12 are pending in the present application. Claims 1 and 3 are herein amended.
New claims 5-12 are added herein.

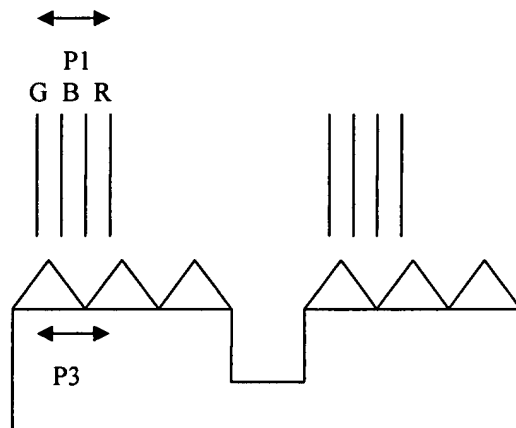
Applicant's Response to Claim Rejections under 35 U.S.C. §103

Claims 1-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hasegawa et al. (U.S. Patent Application No. 2002/0126247) in view of Amano et al. (JP 2002-293049).

It is the position of the Board that Hasegawa discloses the invention as claimed, with the exception of teaching the shape of the microprojections. The Board alleges that it would have been obvious to modify the shape of the microprojections.

Applicants first discuss the cited art in detail. Hasegawa discloses a method for manufacturing a liquid crystal display type electro-optical device including a flexographic process. In this method, same-color filters are printed in stripe-shape with a predetermined pitch P1 (see Fig. 3(B)). In the letterpress 110 for printing the stripe-shaped same-color filters, meshes 119 for holding coating liquid 150, which is the material of the same-color filters, are formed on the surfaces of the projections 111 (see Fig. 7(B)). As shown in Figs. 7(A) and (B), the meshes 119 extend the whole length of the projections 111 and have a continued triangular cross section. Further, in paragraph [0055], Hasegawa discloses that the pitch P3 in the triangular cross section of the meshes 119 (see Fig. 7(B)) and the pitch P1 of the stripe-shaped same-color filters (see Fig. 3 (B)) are set to be equal. That is, the coating liquid 150 of the same color is held in each

valley portion in the continued triangular cross section of the meshes 119, and the coating liquid 150 in the valley portions is held in a stripe shape on the surface of the projections 111 (Pitch $P3 = P1$). It appears that the amount of coating liquid 150 to be supplied to the letterpress 110 is controlled by the supplier 160. Specifically, the amount of coating liquid to be held in each valley portion (pitch $P3$) between adjacent projections in the triangular cross section of the mesh 119 is controlled so that the coating liquid 150 does not fill the whole area of the valley portions of the mesh 119. Accordingly, the same color filters are printed in a striped shape (pitch $P1 = P3$). Thus, after the stripes of a first color (for example, green) are printed, stripes of a second color (for example, blue) and a third color, (for example, red) are printed between the stripes of the first color at positions shifted by $1/3$ pitch $P3$, respectively. Hasegawa may be summarized by the following illustration:



Amano discloses a resin relief printing plate 1 for forming an oriented film. As shown in Paragraph [0014] and Fig. 1, each plate 1 is formed with one printing projection 2 having a square shape in plan view. As described in paragraphs [0012], [0020] and Figs. 1 to 3, a

multiplicity of minute projections 3 having a truncated cone shape or cylindrical shape are distributed on the whole area on the printing projection 2, and a groove 4 for retaining the application fluid for forming the oriented film is formed between the adjoining minute projections.

A layer forming relief of the present invention is recited in Claims 1 to 4. More specifically, pending claims 1 and 3, recite that in the layer forming relief according to the claimed embodiments, the printing convex portions are formed with a pitch, and the pitch of the printing convex portions is substantially equal to a width of one pixel printed on the printing object. Applicants respectfully submit that the cited art does not disclose or suggest the embodiments as claimed for at least the reasons discussed below.

The proposed modification would destroy the functionality of the device of Hasegawa

In its Decision, the Board states that “Hasegawa discloses that the shape of micro-projections (119) can vary.” See page 5, lines 9-10. However, the shape of the meshes 119 of Hasegawa cannot vary unlimitedly.

As described above, according to Hasegawa, for printing the same-color filters in the stripe-shape with the predetermined pitch P1, the pitch P3 in the triangular cross section of the meshes 119 formed on the surfaces of the projections 111 of the letterpress 110 is set to be equal to the pitch P1 of the stripe-shaped same-color filters. The coating liquid 150 which is the material of the same-color filters is held in the valley portions in the triangular cross section of the meshes 119 so that the coating liquid 150 is held in the stripe shape (Pitch P3 = P1) on the

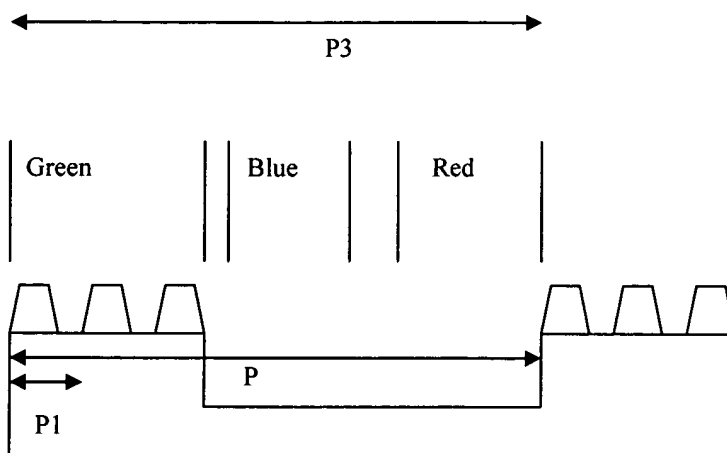
surface of one projection 111. This arrangement allows the printing of the same-color filters in the stripe-shape of the predetermined pitch (P1).

If the meshes 119 of Hasegawa, in which same-color filters are printed in stripe-shape, are formed in the shape of, for example, the minute projections 3 of Amano, a same-color filter would be formed as a uniform plane corresponding to the whole surface of one projection 111, *i.e.*, the whole area of the meshes 119, similarly to Amano. With this structure, since the same-color filters would not be formed in the stripe-shape, color filters of the two colors other than the same-color filters could not be formed between the same-color filters in the later steps. Thus, an electro-optical device of Hasegawa cannot be produced.

Therefore, since the mesh 119 of Hasegawa cannot be varied without limitation, that is, since the mesh 119 can be varied only within a limitation that the same-color filters are printed in the stripe-shape as described above on one projection 111, it would not have been obvious to modify the meshes 119 of Hasegawa to be the shape of the minute projections 3 of Amano simply because the both elements are formed to retain fluid.

Neither Hasegawa nor Amano discloses the recited pitch of the printing convex portions

Furthermore, according to the embodiments of the amended claims, the pitch P for providing the printing convex portions 1 is equal to the same-color pitch P3 (pitch for providing the organic luminous layers 22 of the same color). In other words, $P = P3$. See Fig. 6 and page 6, lines 12-15 of the specification. This feature is also shown in the following illustration:



On the other hand, in the claimed embodiments, the pitch for providing the micro-projections 2 is not equal to P3. In other words, $P1 \neq P3$. This feature clearly shows a patentable distinction between the present invention and Hasegawa. This feature is also not included in Amano.

Therefore, even if the shape of the meshes 119 were modified, the combination of Hasegawa and Amano does not disclose or suggest the claimed embodiments. In other words, the cited art, either singly or in combination, does not disclose or suggest a layer forming relief in which printing convex portions 1 are formed with a pitch P equal to the same-color pitch P3, and micro-projections 2 or micro-stripes 12 are distributed on the top faces of the printing convex portions 1.

Therefore, for at least the foregoing reasons, Applicants respectfully submit that the layer forming relief according to the amended claims 1 and 3 distinguish over the cited art and define patentable subject matter. Applicants respectfully submit that the embodiments of dependent claims 2 and 4 are patentable at least due to their dependency on claims 1 and 3, which

Applicants submit are patentable for at least the above reasons. Favorable reconsideration is respectfully requested.

Method Claims

Applicants herein add method claims 5-12, which define the pitch of the printing convex portions and a same-color pitch of the linear stripe-shaped printed layers as being substantially equal. In the printing method of independent claims 5 and 7, since a layer forming relief like that recited in claims 1 and 3 is used for printing, a plurality of linear stripe-shaped printed layers of the application fluid applied on the printing convex portions can be formed on a printing object with a same-color pitch which is equal to the pitch of the printing convex portion.

On the other hand, in Hasegawa, as described above, the same-color pitch P1 of the color filters is equal to the pitch P3 in the triangular cross section of the meshes 119. However, the same-color pitch P1 is not set to be equal to the pitch of the projections 111 which correspond to the printing convex portions of the layer forming relief of the present invention.

Amano does not include the concept of a predetermined pitch for forming the oriented films at all. Therefore, the combination of Hasegawa and Amano does not disclose or suggest the printing method of claims 5 and 7.

For the foregoing reasons, Applicants respectfully submit that the printing method as recited by newly added claims 5 and 7 distinguishes over the cited art and defines patentable subject matter. Further, Applicants respectfully submit that claims 6 and 8-12 are patentable at

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least due to their dependency on claims 5 and 7, which Applicants submit are patentable for at least the reasons discussed above. Favorable consideration is respectfully requested.

Conclusion

In view of the foregoing remarks, Applicants respectfully submit that the layer forming relief according to claims 1 to 4 and the printing method according to claims 5 to 12 are not disclosed or suggested by the cited art, either singly or in combination. As such, Applicants respectfully submit that claims 1-12 define patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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